User manual

Wax scalding unit

Wapo-Ex 12

Wapo-Ex 12

WASSERMANN DENTAL-MASCHINEN

CE

Die Basis für Ihr Labor

Dear customer,

Thank you for choosing a product from the Wassermann range. Wassermann dental equipment incorporates the highest standards of quality and the latest technology. In order to enjoy maximum performance and years of trouble-free operation, please read this user manual carefully before you start work, and operate the unit according to the recommended guidelines.

Be sure to keep the user manual close at hand so it can be referred to at any time.

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1 Features

The famous Wassermann WAPO - EX 12 wax steriliser with multifunction display is capable of sterilising wax for up to 12 denture halves. Its long service life is due to a smooth-running, no-seal bronze pump and a stainless steel housing.
The unit has a water-level indicator to prevent overheating.

2 For your safety

2.1 Follow the user manual

You should read and carefully follow the instructions in this user manual for setting up and operating the unit. The device is intended only for its specified purpose.
Especially important points are highlighted as follows:

Warning!
This is a warning of risk situations and dangers. Failure to observe this warning could be life-threatening. These warnings must be observed.

Information!
This symbol draws your attention to specific features that must be observed.

2.2 Safety guidelines

This equipment is designed to operate at 220-240 V / 50/60 Hz. Make sure it is always connected to the appropriate power supply. The rated output of the unit is 3300 W. If a fixed connection is used, the unit should be fitted with an all-pin disengager.
Always remove the plug from the power socket before undertaking maintenance or cleaning work.

2.3 Responsibility for operation or damage

The responsibility for operating the device lies exclusively with the owner or user if said device is incorrectly serviced, maintained or altered by persons not employed by an authorised dealer or if the device is used in a manner contrary to its specified purpose. The unit must be maintained and operated in accordance with this user manual. Wassermann Dental-Maschinen GmbH is not responsible for damage arising from the ***nonobservance*** of these instructions.
Warranty and responsibility provisions contained in the sales and supply conditions of Wassermann Dental-Maschinen GmbH are not extended by these instructions.

Ensure that this user manual is accessible at all times and has been read and understood.

3 Applications

The WAPO - EX 12 is suitable for sterilising wax for up to 12 denture halves.

4 Contents

Wapo-Ex 12 automatic steriliser	170987
Spray wand	830145
2 L wax remover	655001
1 L lime remover	655002
Feeder hose with water inlet valve and gasket	830001
Drain hose with clamp	320061/322006
Stripper roller	830223
Plastic drain pan	390033
Sterilising channel	830220
Spray arm with seal	830160
2 denture containers	830205
2 covers	830230
1 set fence for smal parts	170179
1 User manual	

5 Before you start

5.1 Unpacking/Transport

– Remove the packaging materials and set the unit up close to a tap with ¾" external thread and a water supply.
– Before transporting the unit, ensure that it has been unplugged from the power socket. Make sure that it is packed correctly in order to avoid accidental damage.

5.2 Set-up/ Installation

– Set the unit up where it is to be used - **not outside** -.
– Make sure the water drain level is above 470 mm, taking the following into account:
Height with spray wand: 1600 mm
Side clearance: 750 mm

***Tip*:** Install the unit under an extractor hood to remove the steam.
It must be fitted with a fuse. (16 A / 230 V)

5.3 Water supply

- Insert the supplied feeder hose gasket in its seat.
- Connect the hose to the tap.
- Connect the drain hose to the outlet on the unit.
- Make sure the hose it at a suitable height above the feeder pipe.

Warning: The minimum amount of water should be about 4.5 L at a supply pressure of 0.2- max. 10 bar.

5.4 Fitting the spray wand

- Raise the coil until the screw fitting can be seen.

Warning: In order to avoid injury, be sure to take hold of the spacer to raise the coil.

- Angle the head over the spray area and screw in the wand.

5.5 Preparation

As well as connecting the unit correctly, the following tasks need to be carried out before you start-up:

- Remove both sliding covers;
- Remove the denture moulds, fence for smal parts and sterilising channel;
- Swing the spray arm up and remove;
- Remove the large, loose stainless steel basket;
- Check that the pump filter is sitting correctly in place;
- Remove remaining packaging;
- Insert roller in bearing.

Note: The roller carrier can only be inserted vertically in the vertical holder for the drive shaft.

- Reinsert the large stainless steel basket;
- Fit fence for smal parts in the large stainless steel basket.
- Fit the spray arm on the connecting joint and swing it down (bayonet connector). Make sure all seals are clean.
- Insert the channel from the front so that any small particles can be caught in the mesh of the large stainless steel basket.
- Swing the handle in again when reinserting the denture holders.
- Fit sliding cover and close (turn through 180°).
- Remove cover (magnetic mount on front of unit) and close drain tap (lever horizontal). Insert the waste container under the drain tap. Replace cover.
- Open tap and check feeder hose for leaks.

Leave a side clearance of 50 mm around the unit to allow adequate heat circulation. The unit can be emptied using a siphon; make sure the drain hose does not leak and is firmly attached to prevent it coming loose. If there is no waste drain, hang the hose in a washbasin.

6 Starting the controller

- Insert plug in socket (220-240 V / 50/60 Hz).
- Open tap.
- Activate main switch (green toggle switch).
- The unit will fill automatically (max. 50 L).
- The unit heats up immediately to its basic setting (65°C) or to the last stored sterilising temperature.
- When the desired temperature is reached, the yellow LED goes out and the unit is ready for operation.

Use heat-resistant gloves when working with the WAPO-EX 12.

The WAPO-EX 12 is protected against running dry if the water is too low (orange LED). A warning signal also sounds while the program is running.

Remove the power plug if the unit is not to be used for a long period.

7 Operation

7.1 General operating instructions

The operator should ensure that only trained personnel use the steriliser; special care should be taken with hot surfaces and liquids. We recommend wearing heat-resistant gloves. Wax can be sterilised up to a melting point of approx. 90°C / 194 °F. The fully stainless steel unit is fitted with a low-water detector to prevent overheating and subsequent damage. An Aquastop ensures that the water supply is permanently on. All information needed by the operator is indicated in the form of displays (screens or LEDs) or, sometimes, audible tones. The capacity of 12

denture halves (or 8 large halves /e.g. IVOCAPs) and the sterilisation channel allow large numbers to be sterilised.

The programmable controller, the automatic cleaning function and the flexible sterilising wand reduce downtimes (e.g. heating up), and facilitate manual sterilising and/or cleaning and maintenance work.

The settings for temperature and time needed for the sterilisation process can be adjusted separately and are easily changed.

Before the unit can be operated, the water tap must be open and the main switch in the ON position. The tap should only be closed and the unit switched off if it is not to be used for long periods. Do not forget to pull the plug.

7.2 Filling the unit with water

A **function switch** on the **top of the unit** is used to select operating functions. There are symbols for Automatic sterilising, Manual spraying and Emptying the unit (Pump down).

Set the function switch to **"Automatic sterilising“**, open the tap and switch the unit ON. The water fills the container to working level and heats it to operating temperature automatically (takes about 1.5 hours). The operating temperature is 85°C / 185°F. Wax remover should be added once the operating temperature has been reached (nominal 85°C). Use the manual spray head for this. Add 100 ml wax remover (without solvent) to the sterilising channel. Set the function switch to "**Manual spray head“** and start it using the Start/Stop button (round, green button on control panel). End process using the Start/Stop button. Change the selection switch to "**Automatic sterilising"**. Wax remover only needs to be added if the water is changed or water is lost (depends on work load).

7.3 Time and temperature adjustment

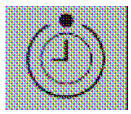
The WAPO-EX 12 is ready for use once the water temperature has reached 60°C (pump can be switched on). Settings above 99°C are not possible for safety reasons. The sterilising time (max. 60 min.) and temperature (max. 99°C) need to be set for both automatic and manual operation.
The control panel at the front of the unit is used for this.

The function switch (top of the unit) must be turned to "Automatic sterilising" for all program settings (including manual sterilising).

7.4 Sterilising

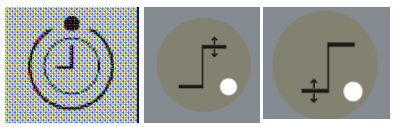
Time setting:

1. Press time button.



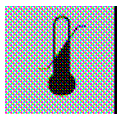
2. Press Preset button.

3. Press and hold the Time button, then set the desired duration using the Preset button.



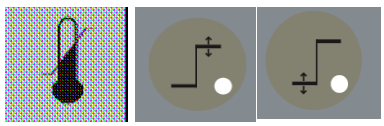
Temperature setting:

1. Press Temperature button.



2. Press Preset button.

3. Press and hold the Temperature button, then set the desired temperature using the Preset button.



All instructions for using the unit, whether in verbal or written form, are based on our own experience and experimentation and can only be regarded as guidelines.

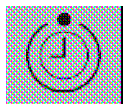
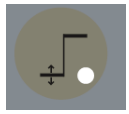
7.5 Storing

Set values can be stored by pressing the Sterilise and buttons simultaneously.

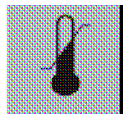
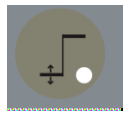
Storage is confirmed by a "**YES**“ on the LED display. Each time a value is stored, the previous value is overwritten.

Warning: It is possible, using the Sterilise and Reset buttons to revert to the factory settings (15 min and 65°C). This is also confirmed by a "**YES**“.

7.6 Reading preset and actual time

- Press Time button. 
- Press Preset; the desired sterilising time will be shown on the display.
- Press Actual; the remaining sterilisation time (after program start) will be shown on the display. 

7.7 Reading the temperature setting

- Press Temperature button. 
- Press Preset; the desired sterilisation temperature will be displayed.
- Press Actual; the actual temperature will be displayed. 

The WAPO-EX 12 is ready for operation above 60°C, i.e., once the pump has started. For safety reasons, the program is set at the factory to switch the heating off automatically above 99°C.

Risk of scalding!

- **Do not hold the manual spray head by the rose or hose.**
- **Do not direct the spray at other people.**
- **Water coming from the spray head can be at temperatures up to 95°C; only direct the head towards the cover area or washbasin.**

7.8 Automatic Sterilising

Change the selection switch to "Automatic sterilising".

- Insert the prepared denture halves in the holder (marked places – up to 6 items possible per holder).
- Insert the holders in the guides and swing handle downwards.
- Close lid. For safety reasons, both lids must be closed during sterilising.
- Set the sterilising time and check the actual temperature.
- Start using the Start/Stop button**.**
- The yellow LED comes on during heating.
- An audible signal sounds when sterilisation has ended.
- The denture halves can now be removed. **Risk of scalding:** Wear temperature-resistant gloves.

Note: The automatic sterilisation process can be halted at any time using first the Temperature button and than the Start/Stop button. Opening one or both lids will interrupt automatic operation. Recontinue by closing one or both lids (e.g. after visual checking).
If the Sterilising button flashes, the lids are not closed. There will be a delay of 1 minute while the heat returns to the previous level. If the closed denture holders in the sterilisation unit are to be sterilised for a short time to make them easier to open, gloves must be worn to avoid scalding.

7.8.1 Sterilising using the manual spray head

The following safety instructions must be followed for safe work with the manual spray:

- Adjust the spray so that the spray holes are directed towards the channels.
- Do not hold the manual spray head by the rose or hose.
- Do not direct the spray at other people.
- We recommend the use of gloves because of the high temperatures (up to 95°C) involved.

7.9 Manual sterilising

- Set the function switch to Automatic.
- Check or change the sterilising time and temperature.
- Set the function switch to manual spraying and **make sure that the manual spray head is aligned so that the spray openings in the head are directed at the sterilising channel.**
- For safety reasons, the spraying process is started using the Start/Stop button.
- Spraying ends at the conclusion of the sterilising time or can be interrupted using the Start/Stop button.
- The function switch must now be changed back to Automatic.

Turn the spray head to change from jet to spray. If it is not used for a lengthy period, the spray head may be hard to turn because of residual wax. Release this wax by running hot water through the head. Rectification work is possible in manual mode because it does not require the lid to be closed.

8 Manual spray head operation in automatic mode

Turning the function switch to Manual during automatic operation activates the manual spray head. However, manual sterilising time is separate from the automatic sterilising process. Resetting the function switch to Automatic to continue automatic operation requires the lid to be closed.

Safety tip: Resetting the function switch to Manual immediately releases the spray stream.

8.1 Exceptions in operation of steriliser

Switch the small, red button on the computer OFF or ON to interrupt the program manually ahead of time.

8.1.1 Advance switch-off

- The unit is on but not needed that day
  (LED display on)
- Press advance interrupt button (1x) (LED display off)
- Your unit is switched off (STANDBY)
- Leave the main switch on (I-0 rocker switch on)
- The steriliser switches ON again automatically
  (programmed weekly schedule)

8.1.2 Additional activation

- The program has switched the unit off but it is needed for a longer time (LED display off – Main switch ON)
- The steriliser is reactivated using the advance interrupt button (1x).
- **Important**: The unit should be switched off again using the advance interrupt (1x) after the end of the additional sterilisation work.
- Leave main switch on.
- The steriliser switches itself on again automatically (programmed weekly schedule)

8.2 Automatic wax removal

- Wax removal takes place after every sterilising process as well as after every sterilisation with the manual spray head (the sterilising time must be complete - indicated by buzzer).
- The removal time is 30 min.
- The water temperature should be approx. 85°C.
- Sterilisation can continue during the cleaning phase.
- Wax removal is interrupted automatically and resumed after the sterilising process (listen for buzzer) for again 30 min.
- Automatic intermediate cleaning: the roller removal takes place during the stillstand of the unit. automatically every 90 min. Therefor a complete sterilising process has to be finnished first (pay attention to buzzer).
- Proceed as follows for intermediate cleaning:
    1. Set function switch to automatic sterilising
    2. Close the lid
    3. Enter short sterilisation time (e.g. 10 sec.)
    4. Start program and allow to finish (buzzer).
    5. Wax removal starts for 30 min.

The removed wax runs into the waste tray in the base of the unit.

9 Programming the activation computer

The unit does not need to be on to change computer settings. The clock does not need electrical power

(indicated by flashing display). Six red selector switches are used for programming. All entries are step by step.

The position to be changed blinks and can be changed using the lozenge-shaped button.

The OK button is used to move to the next position and the arrow button to go back. Input is finished when no position is blinking. Use the CL button to delete activation times.

The menu button is used to select settings.

Button A (manual button with symbol) is used to switch the clock output channel on and off, and is only used in exceptional cases.

9.1 Factory presets in auto mode (display menu)

- Press the OK button.
- All factory presets are shown on the display.
- The bar at the top tells you if your unit is switched on (set at the factory for 6 am to 6 pm).
- The current time is shown in the centre (e.g. 10:22).
- The day of the week is shown under the time (e.g. 4 = Thursday).
- The dot above the word Auto tells you which menu you are in (currently Auto = display menu).
- The last message tells you whether the unit is on or off (A ⌜ =ON) or (A ⌞ =OFF)

This means, for example 6 am (A⌜ =ON) and from 6 pm (A⌞= OFF).

These settings need to be adjusted to suit your operating conditions.

9.2 Entering or changing the date and time (Mode O)

- Press the OK button (Auto mode displays).
- Press the menu button (3x) until the pointer in the display is above the O symbol (time).
- Press the OK button (1x). The current date appears in the display.

9.2.1 Changing the date

- You can now select individual positions to change using the OK button (move right) and the arrow button (move left) (indicated by blinking display).
- Change the value using the lozenge-shaped button.
- Use the OK button to quit the changed position (the new value is stored).

- To end entering the date, press on OK until the word TIME appears in the display (the current time is displayed).

9.2.2 Changing the time

- You can now select individual positions to change (blinking on the display) using the OK button (move right) and the arrow button (move left).
- Change the value using the lozenge-shaped button.
- Use the OK button to quit the changed position (the new value is stored).

- To end entering the time, press on OK until no further position is blinking in the display. (Auto mode is displayed – all settings are stored).

The automatic changeover to summer time has already been programmed in accordance with the regulation applying since 30.05.1994.
(Start: Last Sunday in March – End: Last Sunday in October).

9.2.3 Overriding summertime changeover

- Press the OK button (1x).
- Press the menu button (4x) until the dot in the display is above the S/W symbol time.
- Press OK (1x); the word ON appears in the display

  (summertime ON).
- Press the lozenge-shaped button (1x); the word OFF appears in the display
  (summertime OFF).
- Press OK to cancel the automatic changeover.

9.3 Entering operating data (menu mode PR and ? mode)

The operating data determines when your unit switches ON or OFF. The switch-on point should be selected 1½ hours before work starts to be sure the water is hot enough (set to 85°C /185°F at the factory).

On and off times are set in PR mode for a weekly period.

You can also program a holiday period in this mode (for example, bridge days).

Modus ? is used to change or delete these.
Your settings occupy 30 locations in memory.
The example illustrates programming operating data for a weekly period:

- Press **OK** (the factory settings appear in the display).

These settings must be deleted before a new weekly program can be entered (the time and date are retained automatically).

9.4 Deleting switching times

9.4.1 Deleting individual switching times

- Change to mode ? using the menu button (2x).
- Press OK (1x); the free memory locations are shown on the display (e.g. 28 PL).
- Use the arrow button to call up the current switching time.

  (Day 1 = Monday to Day 5 = Friday, both at 6 pm).
  Delete using the CL button. 29 PL (free memory locations) now appears in the display.

- Use the arrow button (1x) to call up the current switch-on time.

  (Day 1 = Monday to Day 5 = Friday, both at 6.00 am).
  Delete using the CL button. 30 PL (free memory locations) now appears in the display. The factory settings no longer needed are deleted. You can also delete all switching times, but the date and time are retained.

9.4.2 Deleting all switching times

- Press OK (AUTO mode displays).
- Press the menu button (2x) (into modus ? = alter change).
- Press OK (1x); the free memory locations are shown on the display (e.g. 28 PL).
- Press the CL button CL (2x) to delete all switching times.
- 30 PL (free memory locations) now appears in the display.

9.5 Programming a weekly schedule in PR mode

There are two program modes for designing your own personal, flexible weekly schedule. You can enter switching times for one or more days. The switch-on point should be 90 minutes before work

starts to allow the water sufficient time to heat up.

In our example, the equipment is to be operated on the following days:

- Automatic switch-on from Monday to Wednesday at 6 am because work starts at 7.30. Automatic switch-off at 6 pm (end of working day).
- Thursday from 11.15 (automatic ON) to 2 pm (automatic OFF).
- Friday from 6 am to 2 pm.
- Saturday and Sunday - not operated. These days do not need to be programmed.

9.5.1 Input for several days

In our example, from Monday to Wednesday

- Press OK (AUTO mode starting status).
- Press menu button (1x) (PR mode menu selection).
- Confirm with OK (1x); the days of the week appear in the display (in numbers from 1 = Monday to 7 = Sunday, all underlined).

The bars show the days to which your programming applies.

- Use OK (3x) to change to week day 4 (number flashes); use the lozenge-shaped button to remove the bar (1x).
- Use OK (1x) to select week day 5 and remove the bar.
- Again, use OK (1x) to select week day 6 (flashes) and remove the bar with the lozenge.
- Remove Sunday from your schedule. Select day 7 with OK and delete the bar with the lozenge.
- Confirm with OK. Days 1-3 (Monday to Wednesday) are marked with bars; a

switch-on time can now be specified for these days (flashing display 0). Use OK and the lozenge to set the switch-on time (06:00 *AON*).

- Press the OK button (1x). Use the lozenge (6x) to change the display to 06.
- Mit Taste OK (2x) drücken wird die Einschaltzeit auf 06.00 *A—angelegt* durch die Rautetaste (1x) wird der Eintrag *ON angehängt.*
- **Display 06.00 *AON***. Confirm with OK. Your equipment will switch on automatically at 6.00.
- You can now enter the **Switch-off** time.
- Use OK (3x) to select week day 4 and remove the bar with the lozenge. Deactivate days 5, 6 and 7 in the same way.
- Use OK to change to the time (0 flashing).
- Choose a switch-off time: - Press lozenge (1x) and change number to 1
- Press OK and change to the next number; change this with the lozenge (8x) to 8. display 18).
- Press OK (3x) (Display 18.00 *A*--).
- Use the lozenge (2x) to enter *OFF* (**Display: 18:00 *A/OFF*** *).*
- Confirm with OK.

Your equipment will switch off automatically at 18.00. Use the menu button (1x) to return to AUTO mode.

9.5.2 Entry for one day

In our example, Thursday

- Press OK (AUTO mode starting status).
- Use the menu button (1x) and (1x) OK to switch to PR mode (**Bar chart for the week will display**).
- Use the lozenge to remove the bar under Day 1.
- Use OK to select day 2 and remove the bar with the lozenge.
- Repeat to remove bars from days 3, 5, 6 and 7.
- **Just leave Day 4 = Thursday marked.**
- You can now set the **switch-on** time.

- Enter the following for the time (0 flashing):
  - Press lozenge (1x) and change number 0 to 1
  - Use OK to select again.
  - Use the lozenge (1x) to change the display to 11 .
  - Use OK (1x) and the lozenge (1x) to set the display to 11.
  - Use OK (1x) and the lozenge (5x) to set the time to 11:15.
  - Conform with OK (display *A--).*
  - Use the lozenge 1x) to change to **11:15 A/ON**.
  - Use the menu button (1x) to store.

Your steriliser will switch on automatically at 11.15.

- The **switch-off** time is **programmed in the same way.**
- Just leave Day 4 marked.
- Set the time as described above to **14:00 *A*.**
- Use the lozenge (2x) to *enter OFF* (display 14:00 *A/OFF)*
- Confirm with OK.

Use the menu button to return to automatic operation.

9.6 Reading and changing switching times (Modus ?)

9.6.1 Reading switching status

Call up the switching times from our example. Follow the steps below to check individual times (inputs):

- Use the OK button (1x) to return to starting mode (AUTO).
- Press the menu button (2x) to go to Mode ?
- Use the OK button (1x) to open Mode ? The free memory locations are shown.
- Use OK or the lozenge to read all settings.

Example: 06:00

The steriliser will switch on automatically at 06:00 ON on the first 3 days of the week.

Example: 18:00

The unit will switch OFF automatically at 18:00 on the first 3 days of the week.

9.6.2 Changing switching times

In our example, the **Friday switch-on time should be entered by changing the weekly schedule.** Only possible because the unit is to switch on at the same time on Monday, Tuesday and/or Wednesday (06:00).

Proceed as follows:

- Press the OK button (1x). AUTO mode displays.
- Use the menu button (2x) and OK (1x) to change to Mode ? The free locations (26 PL) are displayed.
- Use OK (1x) to call up the switch-on time of 06:00.
- You can now change this using the lozenge (1x).

Before you can enter a switch-on time for Friday, Day 5 must be marked with a bar in the weekly list.

- Press OK (4x) (Day 5 flashes).
- Press the lozenge (1x) (Day 5 is assigned a bar).
- Press OK (8x) (all other setting must remain unchanged – display shows 26 PL).

The unit will now switch on at 06:00. The Friday switch-off time is the same as at the end of Thursday and is entered as follows:

- In Mode ? select a switch-off time for Thursday of 14:00 A ⌝⌞

Press the OK button (3x).

- Press the lozenge (1x), then OK (4x); Day 5 will flash on the display.
- Use the lozenge (1x) to insert a bar.
- Press OK (8x) to transfer all other entries.
- Use the menu button (1x) to return to AUTO mode.

The steriliser will now switch off on Friday at 14:00.

Important: Each programmed or changed week day must have a switch-on and switch-off time. All changes made apply to the days market with a bar.

9.7 Holiday switching in PR mode

Work pauses (e.g. public holidays) can be entered using holiday switching.

Only one holiday program can be entered. New entries overwrite the previous entry. Once the holiday has passed, the unit deletes the holiday program automatically and return to the weekly program.

Example:

Turning the steriliser off between 20:00 and 24:00 in April.

- Use the OK button (1x) to return to starting mode AUTO.
- Use the menu button (1x) and OK (1x) to change to PR mode.
- Press arrow button (1x) and enter start time: -lozenge (2x).
- OK (3x).
- Lozenge (4x).

Display: 20.04 START.

- OK (1x).
- Enter end time: -lozenge (2x).
- OK (1x).
- Lozenge (4x).
- OK (2x).
- Lozenge (4x).

Display: 24.04 END.

- OK (1x).
- **Lozenge (2x). Important: A*OFF* (switch unit off).**
- Use OK (1x) and the menu button (1x) to return to AUTO mode.

It is very important to turn the connecting element on during the holiday periods. The unit has to be in state: A *OFF* during the holiday switching.

We recommend to shut down the unit completely and to close the water tap before longer holidays (e.g. works closure).

10 Troubleshooting

Problem	Likely cause	Likely solution
WAPO-EX 12 does not heat	Not plugged in	Check or insert mains plug
	Main switch not on	Check and switch on if necessary
WAPO-EX 12 does not heat, water level is too high and water warning light blinks in a minute cycle	Level sensor dirty	Clean level sensor, let off water first (in case of low pump temperature let off water manually)
WAPO-EX 12 does not heat , water warning light comes on (During the auto mode an audible signal sounds in addition)	Water level too low, unit does not fill	Check water supply (turn on). Aquastop function out of order. Sensor rods of the combisensor twisted. Contact service
Water pump does not come on	Operating or preset temperature not reached	Heat to operating (min. 60°C) or preset temperature
Roller does not run	Operating temperature under 75 °C	Heat to 75 °C
Water level is too high, nevertheless unit is ready for use	Upper level sensor dirty	Clean level sensor, let off water first (in case of low pump temperature let off water manually)
Multifunction display does not work correctly	Voltage variations in lines (220-240 V / 50/60 Hz)	Switch main switch off then on again after approx. 1 min.
Multifunction display shows **F 1**	Short-circuit	Contact service
Multifunction display shows **F 2**	Faulty temperature sensor	Contact service
Multifunction display shows **F3**	Faulty repairing of the sensor rods by third party	Turn off the water supply, switch off the unit completely, contact service
	Faulty operating of the unit (damage of the combisensor)	Turn off the water supply, switch off the unit completely, contact service
	Transport damage of the combisensor or rather the unit	Turn off the water supply, switch off the unit completely, contact service
	No water supply during the initial filling.	Switch of the unit, turn on the water supply, after 1

Problem	Likely cause	Likely solution
	(Display shows F3 after 15 min. because the total water supply quantity is minimised by this time.)	min switch on the unit. Please control new initial filling! Water level approx. 15 mm under the water outlet.
Multifunction display shows **A**	Temperature above 99°C	Contact service
Multifunction display shows **A 8**	Temperature above 108°C	Contact service

If the above suggestions do not solve the problem, get in touch with your dental depot or our Service staff.

Warning: do not use wax removers containing solvents as these will attack rubber parts.

Warning: allow KALK–EX max. 12 hours to work.

Drain solution and rinse thoroughly.

11 Care and maintenance

11.1 Cleaning

In order to guarantee problem-free operation:

1 x per week

- Remove cover.
- If more than ¾ full, the waste wax container must be emptied. This can be reused for less high-quality work.
- Reinsert container and replace cover.

Every 6 weeks

The water may need changing earlier or later, depending on use and water hardness. We recommend every 6 weeks.

- Wax removal should be carried out before changing the water to keep the amount of wax in the drain hose as low as possible. This can occur early in the day, 30 minutes before the unit switches off automatically. The water temperature should be 85°C.
- Follow the steps below when changing the water:
    1. Unit must be heated to a water temperature of 65°C.
    2. Turn off tap and check drain hose is connected correctly to siphon or is hanging in wash basin.
    3. **Set** function switch to "Pump down".
    4. Switch on pump with Start/Stop button. An audible tone (low water level - automatic heater switch-off) sounds while the container contents drains (60 seconds).
    5. After pump-down (siphoned air will cause a gurgling noise), the pump must be switched off with the Start/Stop button.
    6. Reset function switch to "Automatic sterilising" position.
    7. Switch unit off completely (main switch on).
    8. The remaining water can now be removed with the wax drain container (lever vertical). Process must be repeated several times as the container cannot hold all the remaining water.
    9. **Important:** Return drain lever to the horizontal after removing the remaining water.

Before refilling the unit (with water), we recommend cleaning the interior and the pump filter. The sensor probes (right side next to pump inlet) should also be cleaned. Check for lime on the heater.

Cleaning the roller brushes is neither necessary nor advisable.

11.2 6-monthly lime removal

- Intermediate lime removal may be needed, depending on the build-up.
- Up to 500 ccm depending on instrument condition
- Drain water containing too much wax dissolver
- Mix Kalk-Ex in cold water

Warning:

Allow KALK–EX max. 12 hours to work. Drain solution and rinse thoroughly. Observe protective measures (wear wraparound protective glasses and suitable gloves). Avoid contact with skin, eyes and clothing. Do not swallow or breathe in lime remover.

Seek medical help.

Clean the outside of the unit with a sponge or soft cloth and mild detergent.
The **model plate** must always be legible and should not be removed.

11.3 Servicing

The WAPO-EX 12 does not need any special servicing. Just make sure it is kept **clean and free of lime**.

11.4 Warranty

The warranty period for our instruments is 12 months. If faults occur within the warranty period, contact your dental depot or get in touch directly with our Service department. The steriliser should only be operated in perfect condition. If faults occur which could harm operators or third parties, the unit should not be used until it has been fixed.
The warranty does not cover damage caused by improper use, external mechanical causes, transport damage or interference with the unit by unauthorised persons.

11.5 Spare parts

Spare parts	
Item no.	Name
830205	Denture container
830215	Filter set
170166	Combi-sensor
170300	Button cover
326002	Spray head
511161	Rocker switch, green
655001	Wax-Ex 2 L
655002	Lime-Ex 1 L
830093	Diffuser, short
830094	Diffuser, long
170005	Network board new
170170	Micro Switch, cpl.
556012	thermo sensor
511213	Computer timer
830011	Water supply Aqua-Stop
830135	Mixing unit, cpl.
830145	Spraying system
170320	Handshower bracket, cpl.

11.6 Repairs

Repairs and maintenance of electrical components should only be undertaken by specialists or factory-trained personnel who are aware of the safety guidelines. Unplug the unit or disconnect the multi-pin mains connection before opening any part of the unit.

Only original spares are to be used. Responsibility for the product is voided if unauthorised persons alter it or if inappropriate components are installed.

12 Technical data

170987 WAPO EX 12

Technical data	
Power	220-240 V / 50/60 Hz
Power consumption	12 A
Output	3300 Watt
W x H without spray arm x D	650 x 900 x 620 [mm]
W x H with spray arm x D	650 x 1600 x 620 [mm]
Weight	87,5 kg
Water capacity	approx. 50 L
Water feed rate	4.5 L / min
Water drain height	470 mm

Noise emission ≤**70 dB (A)**

We reserve the right to make technical changes!

13 EC Compliance Certificate

In accordance with 73/23/EWG (low-voltage guidelines) modified by 93/68/EWG and 89/336/EWG (EMV guidelines) and 89/392/EWG (Machinery guidelines), with modifications

Manufacturer: W A S S E R M A N N Dental-Maschinen GmbH Rudorffweg 15 - 17 D-21031 Hamburg

Product description: Wax steriliser for dental applications

Model:		
	WAPO-EX 12 USA	(170986)
	WAPO-EX 12 GB	(170984)
	WAPO-EX 12 AUS	(170983)

Applicable standards: EN 61010-1:1993 + A2:1995
EN 50081-1 + EN 50082-1
DIN 45635 P.1

Hiermit wird bestätigt, dass die oben bezeichnete Maschine den genannten EG-Richtlinien entspricht. Diese Erklärung wird ungültig, falls die Maschine ohne unsere Zustimmung verändert wird.

This is to confirm that the above-mentioned machine complies with the described EC rules. This declaration becomes invalid if the machine is modified without our approval.

Cette machine est conforme aux normes en vigueur de la Communité Européene. Cet avis est nul et non avenant si cette machine est modifiée sans notre accord.

Esta máquina, anteriormente mencionada, cumple con los limites requeridos por el reglamento EC. Ahora bien, esta declaración quedará invalidada en caso de realizar modificaciones al aparato sin nuestra aprobación.

Hiermee wordt bevestigd dat bovengenoemde machine voldoet aan de voorgeschreven EU normen. Deze verklaring verliest geldigheid als er zonder onze uitdrukkelijke toestemming wijzigen aan de machine worden aangebracht.

Place, date: Hamburg, 17 March 2006

Company stamp:

WASSERMANN DENTAL-MASCHINEN GMBH Rudorffweg 15-17 · 21031 Hamburg

Signed: _____

Wilfried Wassermann
(Managing Director)

Notes:

Notes:

Notes:

Wassermann Dental-Maschinen GmbH
Rudorffweg 15 – 17, D-21031 Hamburg

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